Universal Interface

Stack Test Module Manual

October 2006

The Stack Test Module is provided to State and Local agencies to enable them to track stack testing information as well as to create transactions for the UI to process for reporting to EPA. The Stack Test Module uses tables in the UI to ensure valid values are supplied. The tables in the UI are linked to the Stack Test database.

There are 4 primary functions of the Stack Test Module indicated by Tabs when entering the system:

1. Data Entry (default shown after profile initially created)
2. Reports
3. EPA Export
4. Profile

DATA ENTRY

The UI linked tables utilized in the data entry component are Identifiers for the plant search selection process; the Descriptions for Air Program Codes; XRActionType for Action Types (in the Profile selection); XRStaffCode for Staff Codes and; XRPollutant for Pollutant selection.

Facility Stack Test

The base information identifying a facility is located in the UI Identifiers table. The Stack Test Module links to this table to display the information. Facility identifying information is not entered directly into the Stack Test module.

There are numerous ways to locate a plant to review their existing stack tests or add new information about a test. You may locate a plant by using any of the pull downs in the search bar: Plant name; Street, City, County, Plant ID, AFS ID and State Registration Number. You may start typing, for example, the plant name and the list displays and refreshes as you type. Other field values are displayed to help identify the appropriate facility.

Protocol

Enter the information as you receive it. For a new protocol that is very similar to the last protocol there is a copy function represented by this symbol:  . When you click this icon you are indicating that a copy is to be made of the protocol you are on. All levels are copied except the dates and the tested values, limits and results. The operator would be responsible for all updates, adds and deletes of copied information.

Edits:

The only required date is the one selected in the profile as the MDR date achieved. There is no edit but if not present it will not be exported. ******It is very important that the operator always provide the date being used as the MDR date achieved – Look at the Profile if unsure. The federal system requires this date.***

All dates may be entered with a two or 4 digit year (mm/dd/yy or mm/dd/yyyy) ;
the 4 digit year is always displayed mm/dd/yyyy.

All dates must be valid format mm = 01-12; dd=01-31; yy > 50 = 19yy; yy $\leq$ 50 = 20yy.

IF BOTH dates VALUED:

Protocol Approved Date must be greater than or equal to the Protocol Received Date.
Test Scheduled Date must be greater than or equal to the Protocol Approved Date.
Test Start Date must be greater than or equal to the Test Scheduled Date OR Protocol Approved Date
Test End Date must be greater than or equal to the Test Start Date
Test Results Received Date must be greater than or equal to the Test End Date
Test Results Accepted Date must be greater than or equal to the Test Results Received Date

Emission Unit

Origin will be a pull down with an add on the fly capability

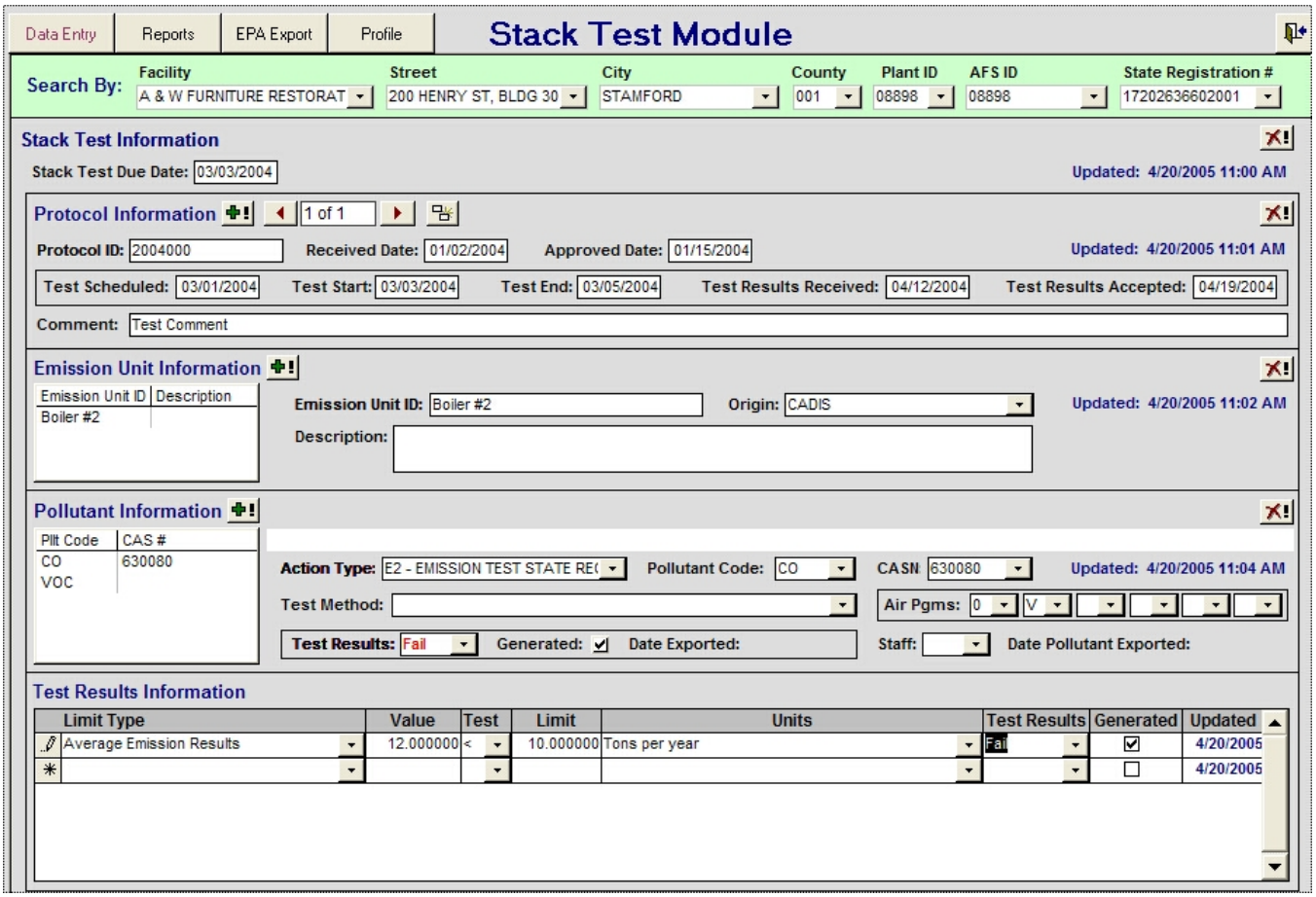
Pollutant

Action Type - pull down of the profile selected values defaulting to the default specified in Profile
Pollutant Code and CASN - pull downs from the linked UI Pollutant Table – Store both if both present on table
Air Program Code(s) pull down of valid codes – linked to UI Table: Descriptions CDItemCode = AP
Test Results – pull down of values from XRTestResults
Test Results Generated – If software generated value then box is checked and value is result of bubble up of Test record; value may be overridden by operator by selecting another value from the pull down
Staff Code – pull down of valid codes - linked to UI Table: XRStaffCode. Name is displayed in pull down also.

Edits: A Pollutant or CASN must be selected and at least one air program per pollutant must be selected;

Test Results Information

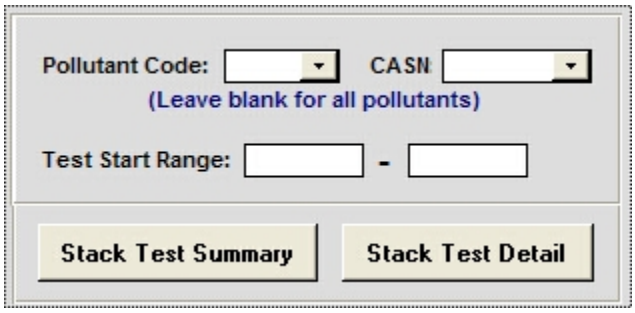
Limit Type: Pull down of predefined values, can add new values on the fly
Value valid values = 0 to 999.999999; from actual test
Column labeled “Test” between Value and Limit – pull down of comparison values values (>, ≥, <, ≤, =)
Limit valid values = 0 to 999.999999; as specified by the permit
Units Predefined table; can add to on the fly if value not currently supported
Test Results – pull down of values from XRTestResults; generated first by comparison if values provided; may be overridden by the operator
Test Results Generated – If software generated value based on a comparison of value to limit using the “Test” operand specified: the box is checked and failed tests are displayed in red. The results may be overridden by the operator.



REPORTS

There are currently 2 reports developed. One is a summary and the other is a detail report supporting the summary information.

On the Reports tab you will see the following:



This screen allows you to focus your report based on a single pollutant or all pollutants and for the stack tests started within a specified date range. Example outputs follow.

Stack Test Summary *Date Range: 1/1/03 - 1/5/05*

Protocols Received	Protocols Approved	Tests Scheduled	Tests Completed	Results Received	Results Accepted
2	3	2	3	2	3

Pollutant Description	Code	CAS #	Tests Passed	Tests Failed
ASBESTOS	AB	1332214		1
CIS-CROTONALDEHYDE	43520	4170303	1	
FLUORENYLACETAMIDE,N-,2-	2ACFL	53963		1
PARTICULATE MATTER < 10 UM	PM10			1
SULFUR DIOXIDE	SO2	7446095	1	
TRANS-CROTONALDEHYDE	43516	123739	1	1
VOLATILE ORGANIC COMPOUNDS	VOC		1	
XYLENOL	24XYL	1300716	1	

Stack Test Detail *Date Range: 1/1/03 - 1/5/05*

Facility: A & W FURNITURE RESTORATION, IN **Street:** 200 HENRY ST, BLDG 30 **City:** STAMFORD **Stack Test Due** 6/3/04

County: 001 **Plant ID:** 08898 **AFS ID:** 08898 **State Registration #:** 17202636602001

Protocol: 2003000 **Received:** 2/2/03 **Approved:** 2/8/03

Test Scheduled: 5/15/03 **Test Start:** 5/15/03 **Test End:** 5/16/03 **Results Received:** 6/22/03 **Results Accepted:** 7/1/03

Emission Unit	Description	Code	CAS #	Result
Boiler#1	PARTICULATE MATTER < 10 UM	PM10		Failed
Boiler#1	TRANS-CROTONALDEHYDE	43516	123739	Passed
Boiler#5	SULFUR DIOXIDE	SO2	7446095	Passed

Protocol: 2003001 **Received:** 9/12/03 **Approved:** 9/12/03

Test Scheduled: 10/18/03 **Test Start:** 10/22/03 **Test End:** 10/22/03 **Results Received:** 11/22/03 **Results Accepted:** 1/5/04

Emission Unit	Description	Code	CAS #	Result
abc ventilator	VOLATILE ORGANIC COMPOUNDS	VOC		Passed
Boiler#9	CIS-CROTONALDEHYDE	43520	4170303	Passed
Boiler#9	XYLENOL	24XYL	1300716	Passed

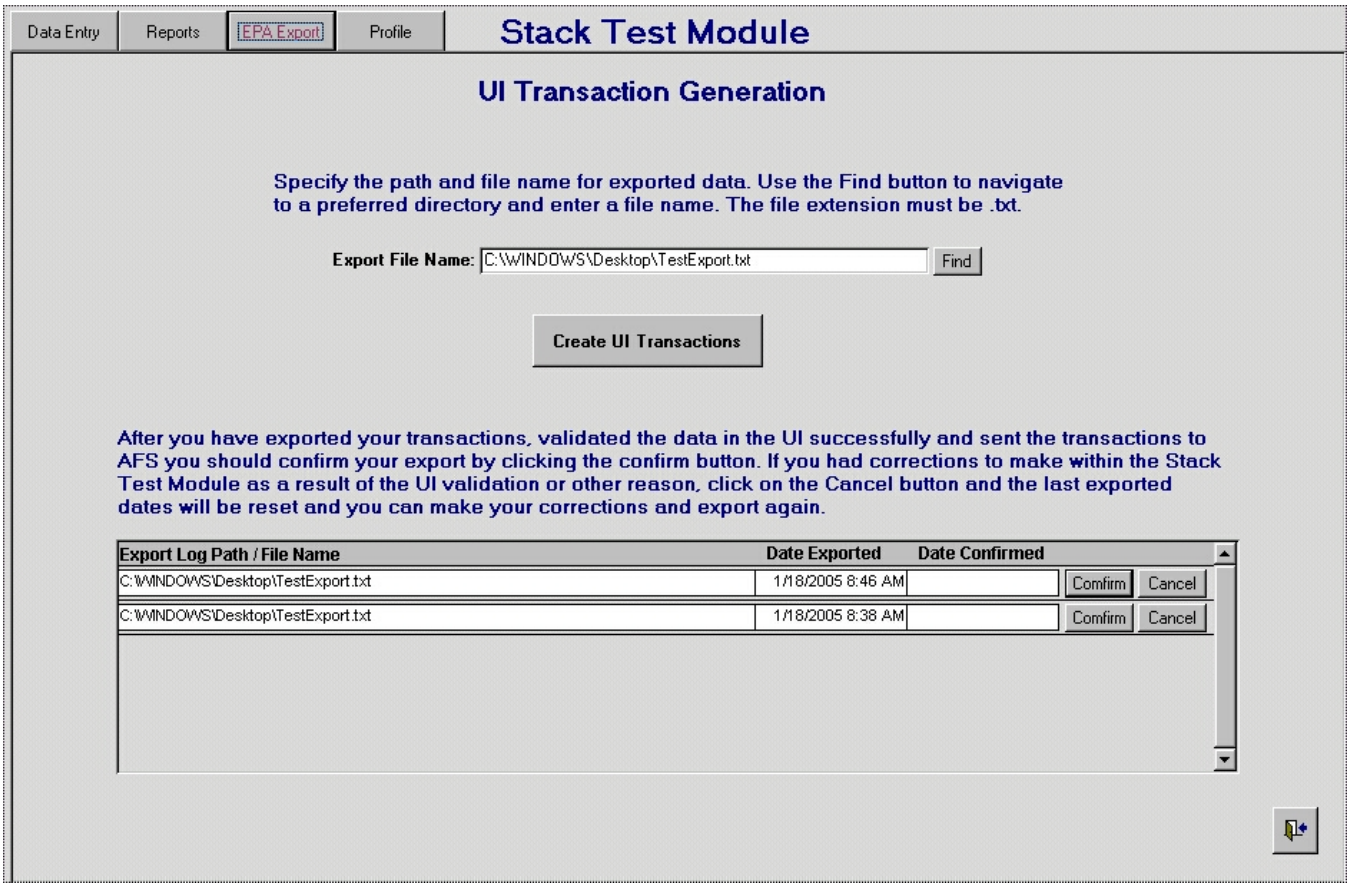
Protocol: 2003003 **Received:** **Approved:** 3/7/04

Test Scheduled: **Test Start:** 3/31/04 **Test End:** 4/8/04 **Results Received:** **Results Accepted:** 6/1/04

Emission Unit	Description	Code	CAS #	Result
Boiler#1	PARTICULATE MATTER < 10 UM	PM10		
Boiler#1	TRANS-CROTONALDEHYDE	43516	123739	Failed
Boiler#5	SULFUR DIOXIDE	SO2	7446095	
Boiler#7	ASBESTOS	AB	1332214	Failed
Boiler#7	FLUORENYLACETAMIDE,N-,2-	2ACFL	53963	Failed

EPA EXPORT

The purpose of this function is to create the Stack Test Action transactions in UI Action format for submission to the UI.



Upon clicking on the Create UI Transactions button, the module will evaluate the profile selections to determine the manner of extraction.

The MDR reportable fields are: *State/County/Plant ID* retrieved from the Identifiers table; at least one *air program*; *action type* is the default unless changed; and either a *pollutant code or CASN*; the *Date Achieved* (ProtoTestEnd) and; *Test Results* either when action entered or later depending on profile.

In all cases the “Date Achieved” must be valued to create any transactions.
If Profile.ProfileTestSubmitted = “with” {uses AFS number generation (not UI number generation) and submits their test with the results (not the results after the test)}

IF PlltExported is blank/null

IF PlltTestResults not blank

Extract the following into UI action format:

	columns
State Cd(leave blank)	1-2
StackTestCounty	3-5
StackTestPlantID	6-10
999 (Action number)	11-13
PlltAirPgm	14
PlltAirPgm2	15
PlltAirPgm3	16
PlltAirPgm4	17
PlltAirPgm5	18
PlltAirPgm6	19

PlltActnType	20-21
If ProtoTestEnd not blank	
ProtoTestEnd	30-37 (yyymmdd)
PlltTestResults	47-48 (pass = PP; fail = FF)
PlltStaffCode	49-51
PlltCode	52-56
PlltCASN	57-65
Spaces	66-67

IF either EmissionUnitIDtxt or EmissionUnitDescription is valued:
concatenate 1st 9 positions of emission unit ID followed by a comma, followed by 15 characters of emission unit description into RDE16 field 68-92.

Set PlltExported and PlltTestResultsExported Dates = Date

If Profile.ProfileTestSubmitted = “without” {uses UI number generation and submits their test first and results later (or at the same time)}

IF PlltExported is blank/null

Extract the following into UI action format:

	columns
State Cd(leave blank)	1-2
StackTestCounty	3-5
StackTestPlantID	6-10
999 (Action number)	11-13
PlltAirPgm	14
PlltAirPgm2	15
PlltAirPgm3	16
PlltAirPgm4	17
PlltAirPgm5	18
PlltAirPgm6	19
PlltActnType	20-21
If ProtoTestEnd not blank	
ProtoTestEnd	30-37 (yyymmdd)
PlltTestResults	47-48 (pass = PP; fail = FF)
PlltStaffCode	49-51
PlltCode	52-56
PlltCASN	57-65
Spaces	66-67

IF Results Code is valued AND either EmissionUnitIDtxt or EmissionUnitDescription is valued:
concatenate 1st 9 positions of emission unit ID followed by a comma, followed by 15 characters of emission unit description into RDE16 field:
68-92

Set PlltExported Date = Date
and
IF PlltTestResults valued set PlltTestResultsExported Date = Date

ELSE

(plltExported is valued but PlltTestResultsExported Date is null AND PlltTestResults is valued)

Extract the following into UI action format (need most fields for UI Action History comparison to identify record to be updated with the results code):

	columns
State Cd(leave blank)	1-2
StackTestCounty	3-5

StackTestPlantID 6-10
Value = RCU (Action number) 11-13
PlltAirPgm 14
PlltAirPgm2 15
PlltAirPgm3 16
PlltAirPgm4 17
PlltAirPgm5 18
PlltAirPgm6 19
PlltActnType 20-21
If ProtoTestEnd not blank
ProtoTestEnd 30-37 (yyymmdd)
PlltTestResults 47-48 (pass = PP; fail = FF)
PlltStaffCode 49-51
PlltCode 52-56
PlltCASN 57-65
Spaces 66-67
IF either EmissionUnitIDtxt or EmissionUnitDescription is valued:
concatenate 1st 9 positions of emission unit ID followed by a comma, followed by 15 characters of emission unit description into RDE16 field: 68-92

set PlltTestResultsExported Date = Date

Once the transactions are generated a log record is created with the Exported file name and path and the date exported. After the file has been sent through the UI and validated, exported and sent to AFS, CONFIRM the export. If you need to make any adjustments within the Stack Test Module CANCEL the export and the export dates within the Stack Test Module will be reset so that you can make your changes and create the UI Transactions again.

A text file and an MS Access Table are also created at export time containing a list of the County / Compliance Plant IDs either of which may be used to facilitate a query extracting the other 3 files required by the UI: Plant General; Air Program and Pollutant Air Program.

PROFILE

Profile: A profile record must be completed by the agency prior to using the system. After completion it will not likely need to be changed but it does direct the system on how to extract the data so it is critical for processing the data correctly.

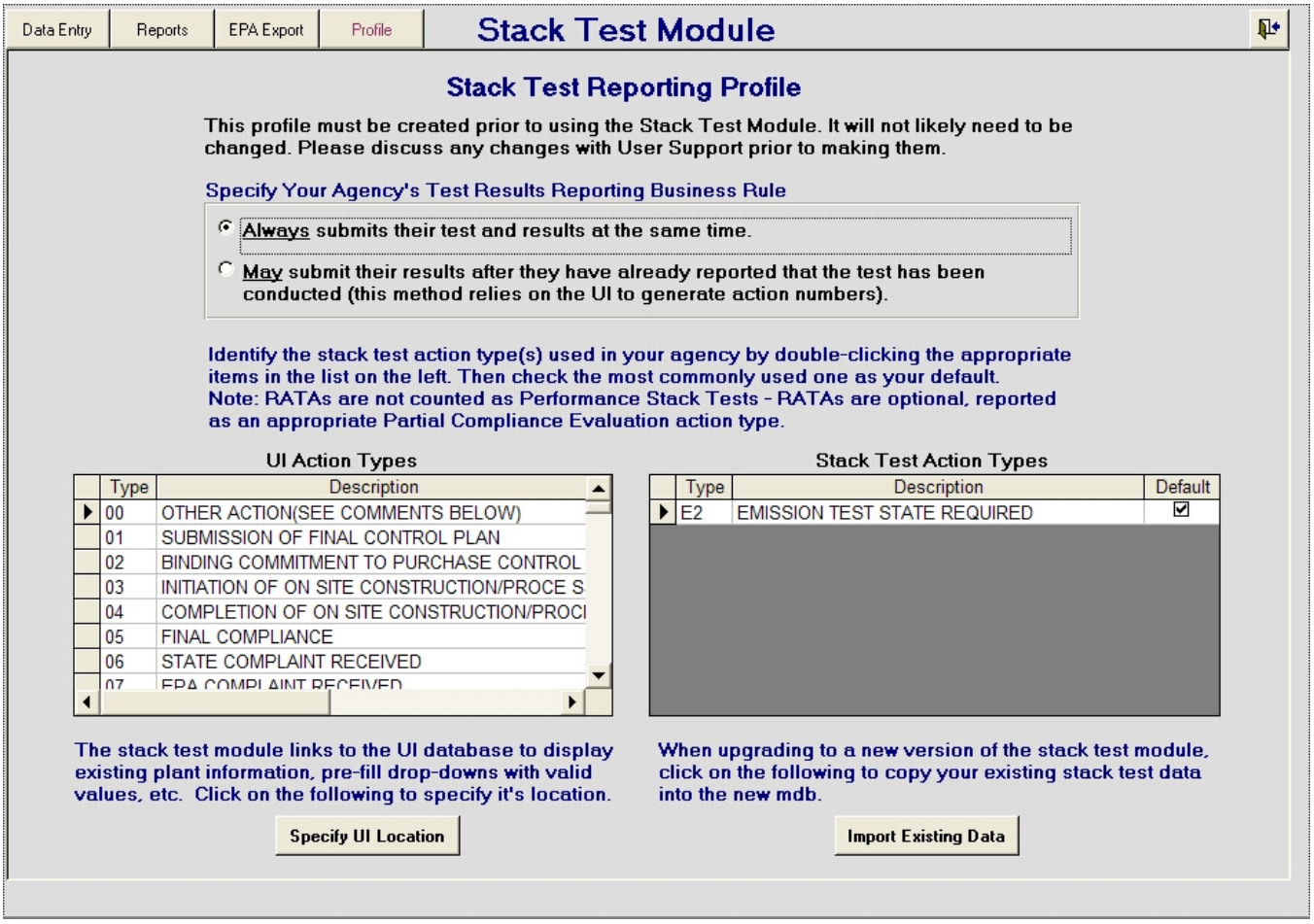
A. It must indicate whether the agency
   1) Always submits their test and results at the same time *(database field ProfileTestSubmitted = With)*
      OR
   2) May submit their results after they have already reported that the test has been conducted (this method relies on the UI to generate action numbers) *(database field ProfileTestSubmitted = Without)*

B. Specify Stack Test Action Type(s), plus which one is the default
   1) select from pull down of all regional action types (UI linked table XRActionTypes). This subset will be the ones available at the pollutant level – Store selections in XRSubsetActionTypes with default checked (CT only uses one type but other agencies use more than one). Double click to select or deselect choices.

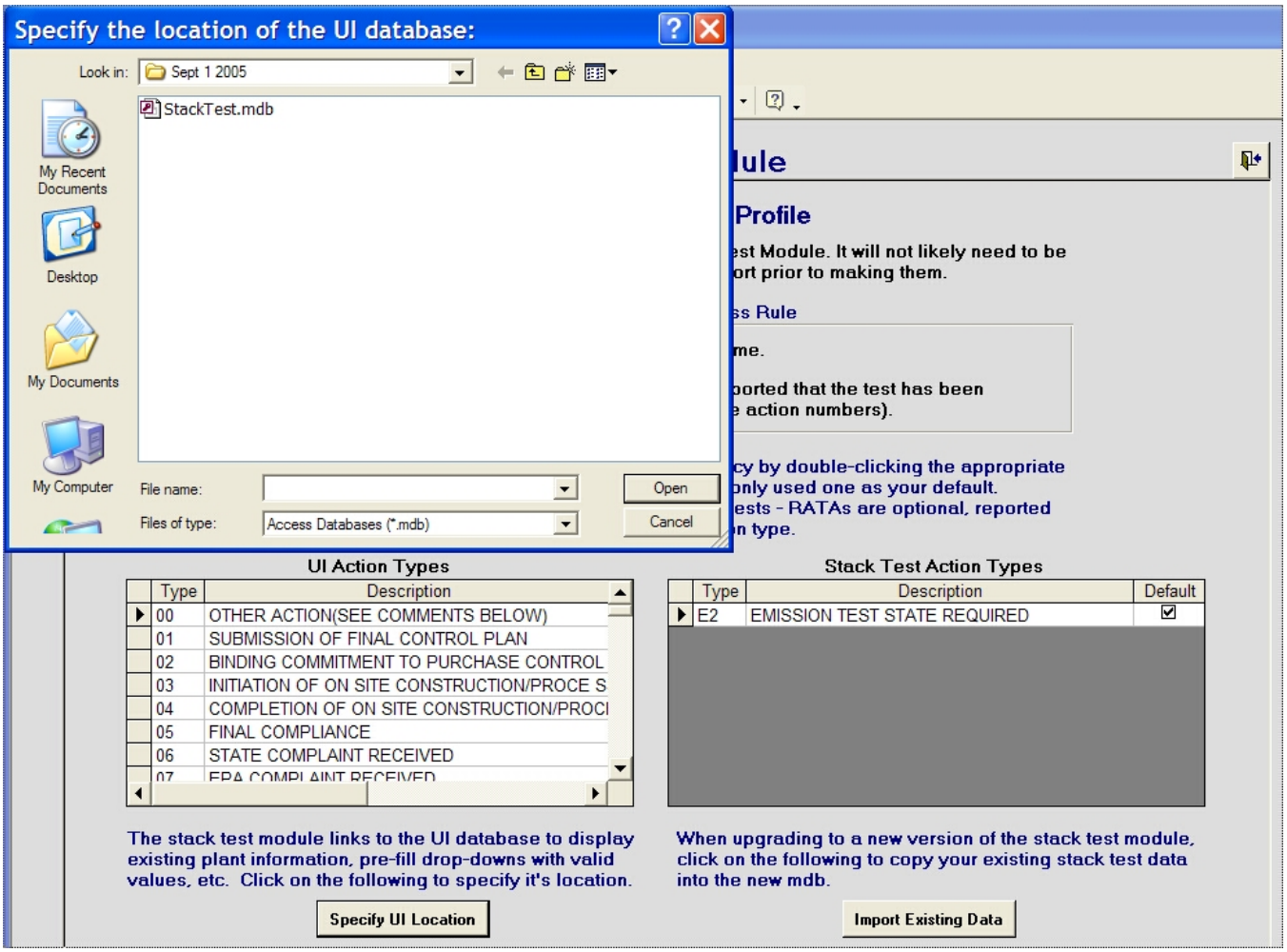
C. When first installing the Stack Test module it is necessary for the system to Link to the UI Tables for plant identification/selection (Identifiers) and UI cross-reference tables used in the Stack Test Module pull-downs. The Stack Test module will do the linking for you if you simply specify the location of the UI. Simply click on the "Specify UI Location" button and a windows navigation window will appear for you to locate the UI. If you move the UI database to a different location you will need to find it again using this procedure.

D. When the stack test module is upgraded there is an Import feature on this screen to copy data from your existing database to the new one provided. Always backup your database (mdb) prior to upgrading. Simply open the new mdb; click on the Import Existing Data button; navigate to the location of the existing mdb (the one you've been entering data into) and the data will be imported/transferred to the upgraded/new mdb.

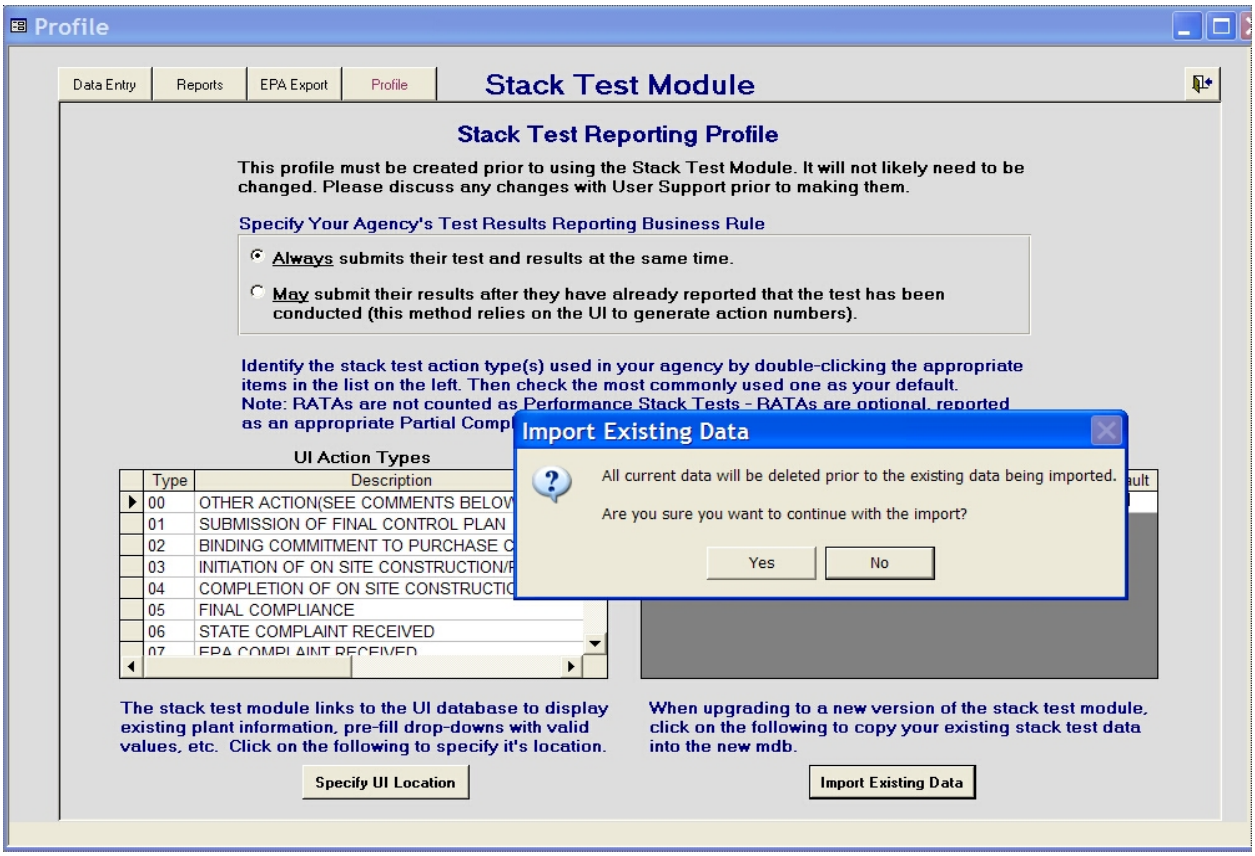
Security: Agency may add user security to the mdb / tables as they feel appropriate.


Data Entry
Reports
EPA Export
Profile
Stack Test Module
Stack Test Reporting Profile
This profile must be created prior to using the Stack Test Module. It will not likely need to be changed. Please discuss any changes with User Support prior to making them.
Specify Your Agency's Test Results Reporting Business Rule
Always submits their test and results at the same time.
May submit their results after they have already reported that the test has been conducted (this method relies on the UI to generate action numbers).
Identify the stack test action type(s) used in your agency by double-clicking the appropriate items in the list on the left. Then check the most commonly used one as your default.
Note: RATAs are not counted as Performance Stack Tests - RATAs are optional, reported as an appropriate Partial Compliance Evaluation action type.
UI Action Types
Type
Description
00 OTHER ACTION(SEE COMMENTS BELOW)
01 SUBMISSION OF FINAL CONTROL PLAN
02 BINDING COMMITMENT TO PURCHASE CONTROL
03 INITIATION OF ON SITE CONSTRUCTION/PROCE S
04 COMPLETION OF ON SITE CONSTRUCTION/PROCI
05 FINAL COMPLIANCE
06 STATE COMPLAINT RECEIVED
Stack Test Action Types
Type
Description
Default
E2 EMISSION TEST STATE REQUIRED
The stack test module links to the UI database to display existing plant information, pre-fill drop-downs with valid values, etc. Click on the following to specify it's location.
Specify UI Location
When upgrading to a new version of the stack test module, click on the following to copy your existing stack test data into the new mdb.
Import Existing Data

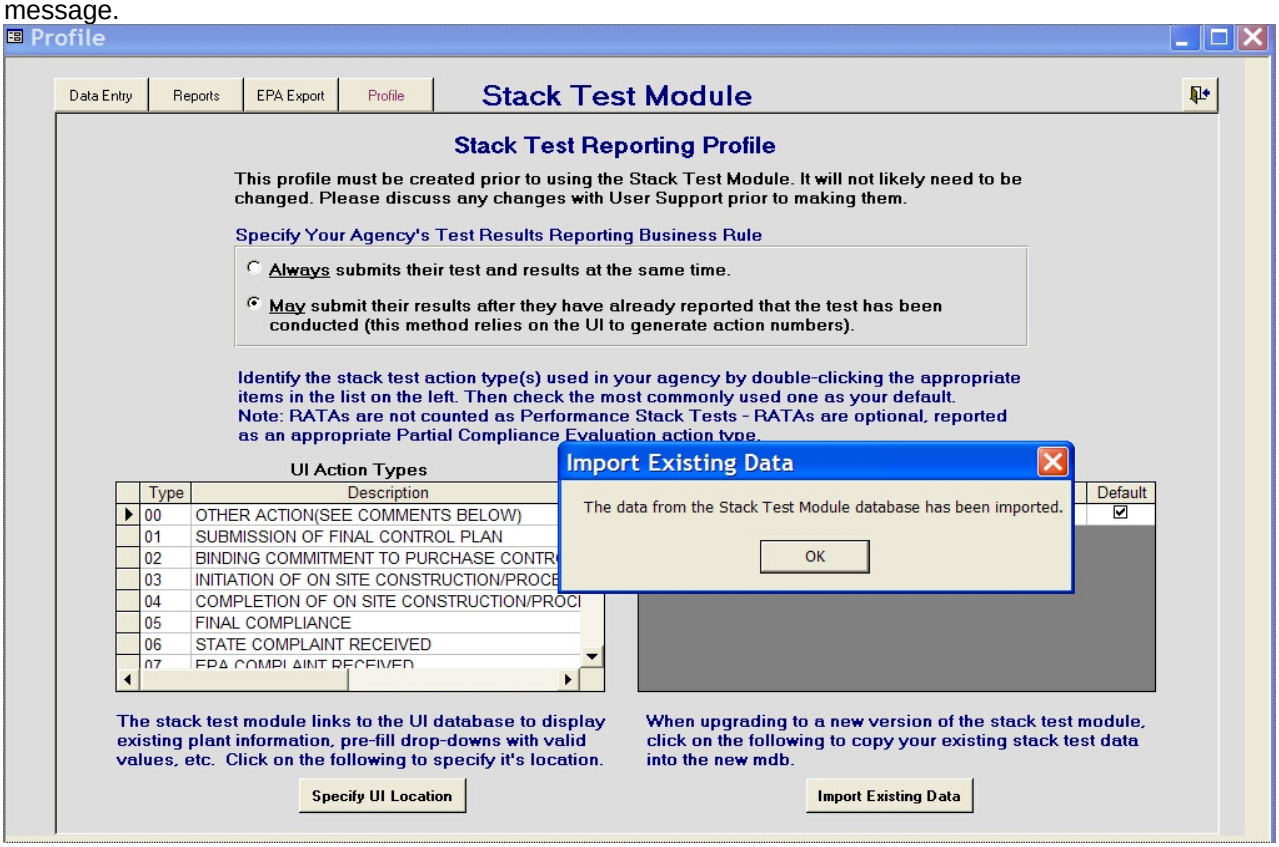
To have the Stack Test Module automatically update the Links to the UI database tables, click on the Specify UI Location Button, the Navigation window appears for you to locate the UI database. You will receive a message indicating that the Links have been updated.



Upon Clicking on the Import Existing Data button you will receive a confirmation window. If you want to proceed, click Yes.



After the data has been imported from the prior Stack Test Module you will receive the Import completed message.



APPENDIX A

STACK TEST

DATA ELEMENTS

Revised 5/1/2005

Data Element Listing

FEDERALLY REPORTABLE MINIMUM DATA REQUIREMENTS (MDRs)

These fields are incorporated into the information levels where they are found.

Action Number (generated value '999' if not valued or if a results code update - value generated is RCU)
Action Type
Air Program(s)
Date Achieved
Pollutant Code or Chemical Abstract Number
Results Code

ALL DATA ELEMENTS

FACILITY INFORMATION

Stack Test Due Date

PROTOCOL INFORMATION

Protocol ID
Protocol Received Date
Protocol Approved Date
Test Scheduled Date
Test Start Date
Test End Date – (MDR federal Date Achieved above)
Test Results Received Date
Test Results Accepted Date

EMISSION UNIT INFORMATION

Emission Unit ID
Emission Unit Description
Origin

POLLUTANT INFORMATION

Action Type (MDR)
Air Program(s) (MDR)
Pollutant Code or Chemical Abstract Service Number Tested (MDR))
Staff Code
Test Method
Test Results (MDR – bubbled from Test Results or overwritten value)

TEST RESULTS INFORMATION

Limit Type
Value
Test Condition
Limit
Units
Test Results

MINIMUM DATA REQUIREMENT ELEMENTS

Data Element Name: **Action Number**

Description .... : A three-digit numeric action identifier.

Valid values ... : The number generator value '999' or 'RCU' will be generated in the stack test module depending on a profile for submittal to the UI. The number will either be generated in the UI or in AFS depending on the users UI profile.

Data Element Name: **Action Type**

Description .... : A two-character code identifying a compliance activity. The regional action type(s) that identify stack/source tests will be in a pull down for selection based on profile selections.

Valid values ... : The action type must exist on the table.

Data Element Name: **Air Program Code**

Description .... : An one-character code used to identify the following:

1) Must be one of the regulatory air program(s) the plant is subject to.
2) The regulatory air program(s) authorizing and associated with a stack test action taken by a local, state or federal regulatory agency.

All air programs will be in the pull downs. The UI will provide a validation error if the air program is not identified for the facility.

Valid values ... :
A - Acid Precipitation
F – FESOP – (Non-Title V)
I - Native American
M - MACT (Section 63 NESHAPS)
V - Title V Permits
0 - SIP Source
1 - SIP Source Under Federal Jurisdiction
3 - Non-Federally Reportable Source
4 - CFC Tracking
6 - PSD
7 - NSR
8 - NESHAP
9 – NSPS

Data Element Name: **Date Achieved**

Description .... : The date on which a stack test is conducted/completed. The presence of a value in this field will trigger the action generation in the UI Transaction creation process.

Valid values ... : Valid Date Format.

Data Element Name:	**Chemical Abstract Service (CAS) Number**
Description .... :	The Chemical Abstract Service Number associated with a **Pollutant** for which the stack test is being performed.
Valid values ... :	The chemical abstract service numbers must exist on the **Pollutant** table.

or

Data Element Name:	**Pollutant Code**
Description .... :	A five-character code identifying the **Pollutant** being tested. A pull down of valid values is provided.
Valid values ... :	Code must exist on the **Pollutant** table.
Data Element Name:	**Results Code**
Description .... :	An MDR for stack test results. The conclusion of all stack tests should be recorded indicating “Pass” or “Fail”.
Valid values ... :	The results of the test (pass or fail) are generated if Limit Types, Value, Test, Limit and Units are entered based on comparison of Value to Limit using the Test condition. If no Limit is entered then the pass/fail must be entered. The test results may be overridden at both the Test Results Information and Pollutant Information levels. The MDR Results Code to create the UI transaction is taken from the Pollutant Information level. If any test fails at the Test Results Information Level, the test results bubbled to the pollutant information test results will be Fail. The value at the Pollutant level (whether generated or entered) will be converted to the appropriate AFS result code value when creating UI transactions. The generated boxes are checked if the software determines the pass/fail value. If a value is entered or overridden the box is unchecked.

ALL DATA ELEMENTS

Note: All dates may be entered with or without leading zeroes and with 2 or 4 digit years. Just type them as you would write them 4/2/04 translates to 04/02/2004.

FACILITY

Data Element Name: Stack Test Due Date

Description: The date on which a stack test program must be conducted.

Valid values ... : Valid Date Format.

PROTOCOL INFORMATION

Data Element Name: Protocol *ID*

Description: A unique ID number signifying a stack test program on a single **Emission Unit** at a **Facility**. One **Stack Test ID** may have many Protocol IDs.

Alphanumeric: 7 characters. Though any format may be used the following format was suggested:

YYYY###, where ### identifies the sequential Protocol ID for a particular year. For example, the first three protocols in 2005 would have the following IDs: 2005000, 2005001, 2005002. Year should represent year that the Protocol comes in.

Data Element Name: Protocol Received Date

Description: Date the test protocol was received.

Valid values ... : Valid Date Format.

Data Element Name: Protocol Approved Date

Description: Date the test protocol was approved.

Valid values ... : Valid Date Format.

Data Element Name: Scheduled Test Date

Description: Date the test is scheduled to commence.

Valid values ... : Valid Date Format.

Data Element Name: Test Start Date

Description: Actual date the test commenced.

Valid values ... : Valid Date Format.

Data Element Name: Test End Date (MDR- Date Achieved)

Description: Date the test was completed.

Valid values ... : Valid Date Format.

Data Element Name: Test Results Received Date

Description: Date the test results were received.

Valid values ... : Valid Date Format.

Data Element Name: Test Results Accepted Date

Description: Date the test results were accepted. The results of the test should be recorded.

Valid values ... : Valid Date Format.

EMISSION UNIT DESCRIPTION

Data Element Name: Emission Unit ID

Description: An Emission Unit Identifier. A **Facility** may have more than one **Emission Unit**.

Valid values ... : Alphanumeric, 50 characters

Data Element Name: Emission Unit Origin

Description: Is a **Facility,** **Emission Unit** identifier origin. Examples: system name or database, other – can build table on the fly.

Valid values ... : Alphanumeric, 25 characters

Data Element Name: Emission Unit Description

Description: Description of the Emission Unit being tested.

Valid values ... : 250 characters. Build table on fly

Data Element Name: Regional Data Element 16 (RDE16)

IF either **Emission Unit ID** or **Emission Unit Description** is valued:
concatenate 1st 9 positions of emission unit ID followed by a comma, followed by 15 characters of emission unit description into RDE16 that will be stored with the Action information in AFS.

POLLUTANT INFORMATION

Data Element Name: **Action Type (MDR)**

Description .... : A two-character code identifying a compliance activity. The regional action type(s) that identify stack/source tests will be in a pull down for selection based on profile selections.

Valid values ... : The action type must exist on the table.

Data Element Name: **Air Program(s) (MDR)**

Description .... : An one-character code used to identify the following:

1) Must be one of the regulatory air program(s) the plant is subject to.
2) The regulatory air program(s) authorizing and associated with a stack test action taken by a local, state or federal regulatory agency.

Valid values ... : Must be on UI Description Table:
A - Acid Precipitation
F – FESOP – (Non-Title V)
I - Native American
M - MACT (Section 63 NESHAPS)
V - Title V Permits
0 - SIP Source
1 - SIP Source Under Federal Jurisdiction
3 - Non-Federally Reportable Source
4 - CFC Tracking
6 - PSD
7 - NSR
8 - NESHAP
9 – NSPS

Data Element Name: **Pollutant (Code and Chemical Abstract Service Numbers (MDR))**

Description: The Pollutant(s) for which an **Emission Unit** must, by regulation or permit, be tested. A **Facility** may have multiple **Emission Units** that may be tested for multiple Pollutants.

Valid values ... : Must exist on the linked UI Pollutant Table available for selection via a pull down.

Data Element Name: **Staff Code**

Description .... : Identifies the person responsible for the test.

Valid values ... : A Pull down of values is available for selection.

Data Element Name: **Test Method**

Description .... : Testing methods

Valid values ... : A Pull down of values is available for selection.

Data Element Name: **Test Results (MDR)**

Description .... : An MDR for stack test results. The conclusion of all stack tests should be recorded indicating “Pass” or “Fail”.

Valid values ... : The results of the test (pass or fail) are generated based on whether the permitted limits are breached. If no limits are entered in the Test Results Information section then the pass/fail must be entered in this section. The test results may be overridden. PASS and

FAIL will be converted to results code PP and FF respectively when UI transactions created.

TEST RESULTS INFORMATION

Data Element Name: **Limit Type**

Description: Examples include:

Average Emission Results
Destruction or Removal Efficiency
Capture Efficiency
Overall Efficiency

The type of test for which limits are being tested. Average Emission Results is the average value of a series of tests (usually three) of **Pollutants** expressed as either emission rates or concentrations or both. A single **Pollutant** may have Average Emission Results expressed by one or more **Result Units** and may be regulated by one or more **Emission Limits**. Other examples of Limit Types are noted at the end of this information section.

Valid values ... : A pull down of Limit Types is available and others may be added on the fly as warranted.

Data Element Name: **Value**

Description: This is the average or actual test result **Value** from the test. Example Average Emission Results is the average **Value** of a series of tests (usually three) of **Pollutants** expressed as either emission rates or concentrations or both. A single **Pollutant** may have Average Emission Results expressed by one or more **Units** and may be regulated by one or more Emission **Limits**. Other examples of Limit Types are noted at the end of this information section.

Valid values ... : 999.999999

Data Element Name: **Units**

Description: Units are the descriptive context by which all result numbers are defined.

Valid values ... : **Drop Down Menu**
Examples include:

Percent
Parts per million wet
Parts per million dry @ 7% Oxygen
Parts per billion dry
Tons per year

Data Element Name: **Limit**

Description: Limits are the maximum allowable Pollutant values (either amounts or percentages) set forth by state regulations or federal regulations or by the permit of each **Emission Unit** belonging to a **Facility**. Each **Emission Unit** may be tested for many **Pollutants**. Each **Pollutant** may have one or more Limits. Example: A comparison with an **Average Emission Results Value** equal to or less than this Limit would cause a **Test Results** Code of "Pass" and any comparison higher than this Limit would cause a **Test Results** Code of "Fail".

Valid values ... : Format 999.999999 percent.

Data Element Name: **Test Condition**

Description: The Test Condition is the operand defined in the permit for the value resulting from the test to the limit, i.e. greater than; greater than or equal to etc.

Valid values ... : <, <= , =, >=, >

Data Element Name: **Test Results**

Description: Test Results (Pass or Fail) are generated based on whether the permitted limits are breached. This is done programmatically by evaluating the value, test condition and limit and the generated box is checked. These values may be overridden and the box is unchecked. If any Results are "fail" then the "fail" result is bubbled to the pollutant information Test Results and the generated box is checked there.

Limit Type Examples:

Destruction or Removal Efficiency

Description: An entered numerical percent value based on a comparison of the average measured emissions of the outlet to a control device by the average measured emissions of the inlet of the pollution control device. A **Results Code** will be generated if there is a **Destruction or Removal Efficiency Limit** to compare this to.

Capture Efficiency

Description: Is an entered numerical percent value based on an indirect determination or direct measurement of the ability to direct uncontrolled **Pollutants** into an air pollution control device. A **Results Code** will be generated if there is a **Capture Efficiency Limit** to compare this to.

Overall Efficiency

Description: An entered numerical percent value calculated from multiplication of **Destruction or Removal Efficiency** by **Capture Efficiency**. It indicates the overall ability of this type of emission unit to remove or destroy pollution. A **Results Code** will be generated if there is an **Overall Efficiency Limit** to compare this to.